

Commonwealth of Kentucky
Division for Air Quality
RESPONSE TO COMMENTS

ON THE TITLE V DRAFT PERMIT V-05-018
KENTUCKY UTILITIES COMPANY/TYRONE GENERATING STATION
VERSAILLES, KY
APRIL 5, 2007
MASSOUD KAYVANJAH, REVIEWER
PLANT I.D. # 21-239-00001
AGENCY INTEREST # 4244, ACTIVITY # APE20040001

SOURCE DESCRIPTION:

A Title V Permit renewal application for the Kentucky Utilities Company/Tyrone Generating Station (KU) was received on June 1, 2004, and supplemental documents with revised emissions calculations, including nitrogen oxides (NO_x) Budget Permit application were received on November 10, 2004 and on September 20, 2005 respectively. This Title V permit will include a renewal of the Phase II Acid Rain Permit and the NO_x Budget Permit. The facility produces electricity from three generators activated by turbines powered by steam generated from four diesel fuel boilers rated at 464 MMBtu/hr each (Emission Units 01–04) installed in 1947 and 1948, and a coal fired boiler rated at 976 MMBtu/hr (Emission Unit 05) installed 1953. Emission Units 01-04 have no emissions control devices. Emission Unit 05 is equipped with an electrostatic precipitator to control particulates emissions, and a Low NO_x Burner system to control NO_x emissions was installed in November 2000. The facility also operates a 7 MMBtu/hr Fuel Oil-Fired Boiler (Emission Unit 07) installed in 1963.

Coal handling for Boiler Unit 05 is operated through Emission Unit 06 that includes the receiving hopper; the primary crusher; (3) conveyor transfer points; and a stockpile. These emission points were constructed prior to 1947 and were in operation in 1947.

PUBLIC AND U.S. EPA REVIEW:

On January 18, 2007, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Woodford Sun*, Versailles, Kentucky. The public comment period expired 30 days from the date of publication.

Comment received:

Comments were received from Tyrone Generating Station, Kentucky Utilities Company on February 19, 2007. Attachment A to this document lists the comments received and the Division's response to each comment. Minor changes were made to the permit as a result of the comments received, however, in no case were any emissions standards, or any monitoring, recordkeeping or reporting requirements relaxed. Please see Attachment A for a detailed explanation of the changes made to the permit. The U.S. EPA has 45 days to comment on this proposed permit.

ATTACHMENT A

Response to Comments

Comments on Kentucky Utilities Co.- Tyrone Generating Station Draft Title V Air Quality Permit submitted by Marlene Zeckner Pardee, Senior Environmental Scientist.

Permit Application Summary Form

1. Table – Typo? PM instead of PT.

Division's response: Comment acknowledged, change made.

Permit Statement of Basis

1. Page 1/Source Description/Third Sentence – The facility produces electricity from “**three generators**” not “five steam turbines”.

Division's response: The diagram attached to form DEP7007-AI permit application shows five emissions units of boilers (Emission Unit 01-05), identified as Generating Unit (1-5) which indicates every boiler feeds steam to a related turbine and generator system (Generating Units). Considering the new information provided through comment, the Division has revised the description of the facility as requested

2. Page 1/ Source Description/Fifth Sentence – KU request the removal of the **64%** for the Low NOx Burner System. These units have no NOx limits. The Low NOx Burners are inherent to the process equipment; a passive control measure that prevents pollutants from forming.

Division's response: Comment acknowledged, change made.

3. Page 2/ Source Description/Fifth Paragraph – KU request adding “**analysis, data, or MSDS, contract specifications**” after certification. In 2006 more than 80% of the diesel fuel produced was ultra low sulfur diesel fuel (15 ppm sulfur or 0.0015%).

Division's response: Comment acknowledged, change made.

4. Page 2/ Source Description/Sixth Paragraph – KU request adding “**or verification from the vendor regarding the sulfur content**” and removal of “**at least once per week**” for the fuel analysis.

Division's response: Vendor certification may be used provided it satisfies the fuel analysis requirement. Division disagrees with removal of weekly fuel analysis, since it is required per 401 KAR 61:015 Section 6(3).

5. Page 2/ Source Description/Seventh Paragraph/Last Sentence – KU request changing “**if visible emissions are seen**” to “**if visible emissions appear to be abnormal**” or “**if visible emissions appear to be close to the emission limit**”. These units have a 40% opacity limit. Therefore, to perform a Method 9 every time an emission is seen (especially if it is below the limit) is overly burdensome.

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Division's response: Division disagrees. This requirement is similar to the requirements in current permit # V97-002

6. Page 3/ Source Description/Second Paragraph/Second Sentence – KU requests the correction of a typographical error. The second sentence should read "...the units are NOx Budget **units**, and hence, **are** required..."

Division's response: Comment acknowledged, change made.

7. Page 3/ Source Description/E. Unit 05/First Paragraph – Typo, "This unit **was** installed..." not, "This unit **is** installed..."

Division's response: Comment acknowledged, change made.

8. Page 3/ Source Description/E. Unit 05 – Should 40 CFR 52.928 control strategy for SO2 be noted in this section?

Division's response: : Comment acknowledged, change made.

9. Page 4/ Source Description/E. Unit 06/Second Paragraph/Item #2 – Typo, "collection of dust **m**" should be "collection of dust **emissions**".

Division's response: Comment acknowledged, change made.

10. Page 4/ Source Description/E. Unit 06/Fourth Paragraph/First Sentence – KU requests the removal of "**on a weekly** basis". The permit does not note a timeframe

*Division's response: Comment about "**on a weekly basis**" is acknowledged. That timeframe has been added to the permit.*

11. Page 4/ Source Description/E. Unit 06/Fourth Paragraph/Second Sentence – The permit, in the monitoring section, does not note a requirement to perform daily qualitative observations. Monthly qualitative visuals and checks of the control equipment would be acceptable monitoring requirements to monitor fugitive emissions.

*Division's response: Comment acknowledged. Both in the Statement of Basis and in the permit in **Compliance Demonstration** of Section 2 -**Emissions Limitations**, a weekly observation of fugitive emissions has been specified to align this permit with similar source permits.*

12. Page 5/ Source Description/E. Unit 07/First and Second Paragraphs – Does Regulation 7 apply to this unit? Regulation 7 is not noted as an applicable regulation in the permit.

Division's response: Comment acknowledged, change made.

13. Page 5/ Source Description/E. Unit 07/Third Paragraph – KU request adding "**analysis, data, MSDS, or contract specifications**" after certification. In 2006 more than 80% of the diesel fuel produced was ultra low sulfur diesel fuel (ULSD) (15 ppm sulfur or 0.0015%).

KU also requests the removal of items number 4 and number 5 (average electrical output and min and max hourly generation rate) from this paragraph. This is an oil fired house heating boiler. It is not

used to generate electricity. Therefore, minimum and maximum generation rates or average electrical output are not monitored.

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Division's response: Comment acknowledged, change made.

14. Page 5/ Past Permit Summary/Table – KU suggests chronological order as noted in the Table of Contents table. The information for the final 3/18/99 permit should be noted prior to the Dec. 1, 1999 permit information.

*Division's response: Past activities are tabulated chronologically by the initiated activities, not by the finalized dates.***Title V Permit**

1. Page 2, Unit 01-04/ Applicable Regulations – Regulation 40 CFR 52.928 is applicable for large coal-fired boiler, not oil fired units.

Division's response: Comment acknowledged, change made.

2. Page 2, Unit 01-04//Emission Limitations 2a – KU requests changing “**fuel analysis**” to “**Btu value or heat rate**”. KU would like the ability to use vendor analysis or guarantees

Division's response: Division has used the words defined by the required regulations, and the “fuel analysis” in the given sample equation is defined by the heat rate in Btu per 1000 gallons of fuel; and there is no language to restrict the permittee to use vendor's guaranteed analysis of the fuel.

3. Page 2, Unit 01-04//Emission Limitations 2a/Equation – KU requests the removal of “**from fuel analysis**”. KU would like the ability to use vendor analysis or guarantees.

Division's response: Division believes requested change is not required.

4. Page 2, Unit 01-04/Emission Limitations 2b – KU requests the end of the sentence to be revised to read as “...**allowed for a period not more than six minutes in any 60 consecutive minutes.**”

Division's response: Comment acknowledged, change made.

5. Page 2, Unit 01-04//Emission Limitations 2d/Equation – KU requests the removal of “**0.3**” KU uses diesel fuel which has a much lower sulfur content than 0.3%; ULSD contains 0.0015% sulfur or less.

Division's response: Comment acknowledged, change made.

6. Page 3, Unit 01-04/Testing Requirements 3a) – 401 KAR 61.015, **Section 8** is the compliance timetable; **Section 7** is the test methods and procedures.

Division's response: Comment acknowledged, change made.

7. Page 3, Unit 01-04/Testing Requirements 3(b) – KU requests clarification of the regulatory requirement to conduct a performance test for PM, opacity and SO₂ on these existing units within six

months following the issuance of the final permit.

These units have not operated since June of 2001. It is highly unlikely that these units will operate in the future; hence, testing can not be performed unless these units operate. If the language is not stricken, KU requests added that testing must be performed within 6 months of operation. These units are currently be evaluated for retirement.

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Division's response: The permit has been modified to indicate six months of operation within any consecutive twelve months period.

8. Page 3, Unit 01-04/Specific Monitoring Requirements 4(a) – KU request adding “**analysis, data, MSDS, or contract specifications**” after certification. In 2006 more than 80% of the diesel fuel produced was ultra low sulfur diesel fuel (15 ppm sulfur or less or 0.0015%).

Division's response: Comment acknowledged, change made.

9. Page 3, Unit 01-04/Specific Monitoring Requirements 4(b) – KU requests the correction of a typographical error. The second occurrence of the word “**In**” should be lower cased “**in**”.

Division's response: Comment acknowledged, change made.

10. Page 4, Unit 05/Emission Limitations 2(c) - KU requests the correction of a typographical error. Before the second occurrence of the phrase “indirect heat exchanger”, the word “and” should be replaced with the word “an”.

Division's response: Comment acknowledged, change made.

11. Page 5, Unit 05/Testing Requirements 3e – KU requests DAQ to confirm that “**biweekly**” means “**every two weeks**”. Additionally, the regulations state that Method 9 is the compliance method. Therefore, how can COM data be used for “compliance determinations”?

Division's response: Comment acknowledged, “biweekly” has been changed to “fourteen boiler operating days” in the appropriate location in the permit. Additionally, the requirement referencing the use of COM data has been modified to clarify it may be used for compliance assurance purposes

12. Page 6, Unit 05/Specific Monitoring Requirements 4a – KU believes that the language as written, is inconsistent with applicable laws and regulations and from a practical standpoint is unworkable.

401 KAR 50:055, Section 2(3) states that Method 9's shall be used to determine compliance with the opacity standard. Section 4a conflicts with this requirement and infers that the COM reading must be accepted if a Method 9 is not performed.

It would be nearly impossible to perform a Reference Method 9, inspect the COM and/or control equipment and initiate repairs all “within 30 minutes.” At the most, the permittee could “**initiate**” a Method 9 and inspect the COM and/or control equipment and initiate repairs.

KU believes that it was not the intent of KDAQ to force the acceptance of the COM reading if the Method 9 could not be performed and the reason was documented. However, it is not clearly stated that we would not be required to accept the COM reading if we document the reason why the Method 9 was not performed.

Many six-minute exceedences are transient events that are instantaneously resolved through operational adjustments. An after the fact Method 9 reading would not provide credible data regarding the single specific six-minute opacity reading that triggered the Method 9 reading. KU suggests that a reasonable threshold would be no less than three consecutive six-minute exceedences. There is a greater chance that this could be tied to an event which caused a true exceedence.

KU believes that the most effective resolution would be through a future rulemaking which would establish a de minimis threshold (e.g., 2% as used by Alabama) for use of COMs data. In the interim KU suggests that the language be changed as follows:

Excluding exempt time periods, if ~~any~~ **three consecutive** six-minute readings ~~average opacity value~~ exceed the opacity standard, the permittee shall, as appropriate:

- (i) Accept the concurrent readout from the COM and perform an inspection (**document reason for COM exceedences**) of the control equipment and make necessary repairs, **within a reasonable period** or;
- (ii) **Initiate** within (30) minutes after COM indicates exceedence of the opacity standard; ~~determine opacity using~~ a Reference Method 9 ~~if emissions are visible, .~~ **Inspect (document reason for COM or control equipment exceedence)** the COM and/or the control equipment, and initiate any repairs **as appropriate**. If a Method 9 cannot be performed, the reason for not performing the test shall be documented. **The COM reading for the exceedence period shall not be considered in determining compliance with the opacity standard.**

Division's response: Division disagrees with the suggested language, but the original language has been modified pursuant to discussions with UIEK.

13. Page 6, Unit 05/Specific Monitoring Requirements 4(b) – KU requests that the date of the filing of the CAM plan be changed. The CAM plan was submitted on May 28, 2004 not August 20, 2004.

Division's response: The Division has revised the permit and the submittal date of the CAM with the permit renewal application is corrected to June 1, 2004.

14. Page 6, Unit 05/Specific Monitoring Requirements 4b(i) – KU request that language be changed to match the proposed language noted in the January 10, 2007 letter to the UIEK group.
If any three (3) hour **average of opacity values exceeds the opacity** indicator level, the permittee shall, **as appropriate**, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs.

Division's response: The Division has revised the permit as requested by the source.

15. Page 6, Unit 05/Specific Monitoring Requirements 4(b)(ii) – KU request the correction of a typographical error. In the last sentence, change the verbiage to "...cause(s) of the excursions **has** been corrected..."

Division's response: The Division has revised the permit as requested by the source.

16. Page 6, Unit 05/Specific Monitoring Requirements 4c – This does not match KU's CAM plan that was submitted May 28, 2004. In October of 2004 KU received a request from KDAQ for additional information; the requested information was submitted November 9, 2004. KU has not received a

request to revise the CAM for the Tyrone Generating Station. This language appears to be establishing another CAM requirement that was not specified in the Tyrone CAM plan.

Division's response: Comment acknowledged. Since operational parameters for the ESPs were not included in the submitted CAM plan and an alternate monitoring scenario has been deemed adequate, reference to ESP operational parameters are not now included with this permit. The condition has been revised to remove the requirement for corrective action when a "normal range" has been exceeded. Since ESP electrical data does provide an indication of ESP performance, requirements to monitor and record performance have been retained and clarification has been provided to conduct such monitoring daily.

17. Page 7, Unit 05/Specific Monitoring Requirements 4c – There appears to be a typo. There are two Sections 4c's (pages 6 & 7).

Division's response: Comment acknowledged, change made.

18. Page 8, Unit 05/Specific Recordkeeping Requirements 5c - KU's current CAM plan does not include recording primary/secondary voltage and current. KU has not received a request to revise the CAM for the Tyrone Generating Station.

Division's response: The Division disagrees, Recordkeeping Requirements 5c is not based upon the submitted CAM plan

19. Page 10, Unit 06/Emissions Limitations/Compliance Demonstration – This implies daily observations/records. Page 12 under Specific Record Keeping Requirements only states that records of coal shall be maintained; there is no requirement to perform daily observations.

Monthly qualitative visuals and checks of the control equipment would be acceptable monitoring requirements to monitor fugitive emissions and abide by 401 KAR 63:010. This would match the requirements noted for the insignificant activities which fall under 401 KAR 63:010.

Division's response: The Division disagrees, since compliance is demonstrated by recording only the situations when failure to comply have been observed. Otherwise, compliance is assumed when daily observations indicate that the process and controls are operating normally. Monitoring and Record Keeping have been clarified to require such activities weekly.

20. Page 13, Unit 07/ Emissions Limitations 2a/Equation - KU requests the removal of “**from fuel analysis**”. KU would like the ability to use vendor analysis or guarantees.

Division's response: Division believes the requested change is not required Please see Comment 2, page 4.

21. Page 13, Unit 07/ Emissions Limitations 2d/Equation - KU requests the removal of “**0.3**” KU uses diesel fuel which has a much lower sulfur content than 0.3%.; ULSD contains 0.0015% sulfur or less.

Division's response: The Division has revised the permit as requested by the source.

22. Page 14, Unit 07/Specific Monitoring Requirements 4a – KU requests adding “**analysis, data, MSDS, or contract specifications**” after certification. In 2006 more than 80% of the diesel fuel produced was ultra low sulfur diesel fuel (15 ppm sulfur or 0.0015% or less).

Division's response: The Division has revised the permit as requested by the source.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.